TITLE: Preparation of imidazolin-2-one derivatives as p38 MAP kinase inhibitors

INVENTOR(S): Kubo, Akira; Imashiro, Ritsuo; Sakurai, Hiroaki; Miyoshi, Hidetaka; Ogasawara, Akihito; Hiramatsu, Hajime; Nakajima, Tatsuo; Nakane, Tetsu

PATENT ASSIGNEE(S): Mitsubishi Tanabe Pharma Corporation, Japan

SOURCE: U.S. Pat. Appl. Publ., 76 pp., Cont.-in-part of Appl. No. PCT/JP02/10937.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040204426	A1	20041014	US 2004-827294	20040420
US 7473695	B2	20090106		
WO 2003035638	A1	20030501	WO 2002-JP10937	20021022
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AU 2004201666	A1	20040513	AU 2004-201666	20040421
WO 2004094404	A1	20041104	WO 2004-JP5716	20040421
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JP 2004339210	A	20041202	JP 2004-125060	20040421
JP 4356504	B2	20091104		
EP 1628968	A1	20060301	EP 2004-728708	20040421
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
US 20090088422	A1	20090402	US 2008-270826	20081113

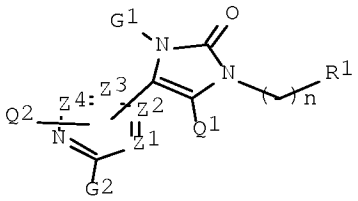
PRIORITY APPLN. INFO.:

JP 2001-324029	A	20011022
JP 2002-263680	A	20020910
WO 2002-JP10937	A2	20021022
JP 2003-116076	A	20030421
AU 2002-363108	A3	20021022
US 2004-827294	A3	20040420
WO 2004-JP5716	W	20040421

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 141:350167

GI



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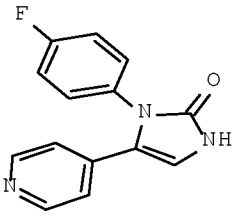


II

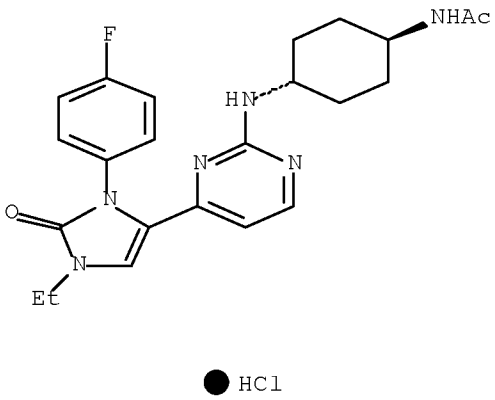
AB The title compds. I [wherein G1 = (un)substituted alkyl or B-W; B = (un)substituted Ph, naphthyl, aromatic heterocyclyl, or cycloalkyl; W = a single bond or (un)substituted alkylene; Q1 and Q2 = independently H, halo, alkyl; n = 0-4; R1 = H, (un)substituted (cyclo)alkyl, Ph, or heterocyclyl; Z1-Z4 = independently CH or N with exclusions; G2 = H, NR3R4, OR5, SR5, COR6, CHR7R8, or heterocyclyl; R3-R8 = independently H, alkenyl, alkynyl, OH, alkoxy, alkoxyoxalyl, alkylsulfonyl, (un)substituted alkyl, amino, alkanoyl, carbamoyl, cycloalkyl, Ph, heterocyclyl(carbonyl), PhCO, or heterocyclyl-CO] and pharmaceutically acceptable salts were prepared as p38 mitogen activation proteins (MAP) kinase inhibitors. Thus, reacting 2,2-diethoxy-2-(pyridin-4-yl)ethylamine (preparation given) with 4-fluorophenyl isocyanate afforded the imidazolinone II. The representative compds. I significantly reduced the production of TNF-α in mice in vivo.

IT 521090-75-5P 521090-76-6P 521091-59-8P
521091-62-3P 521091-63-4P 521091-65-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(MAP kinase inhibitor; preparation of imidazolinones as p38 MAP kinase inhibitors)

RN 521090-75-5 CAPLUS

CN Acetamide, N-[trans-4-[[4-[1-ethyl-3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, hydrochloride (1:1) (CA INDEX NAME)

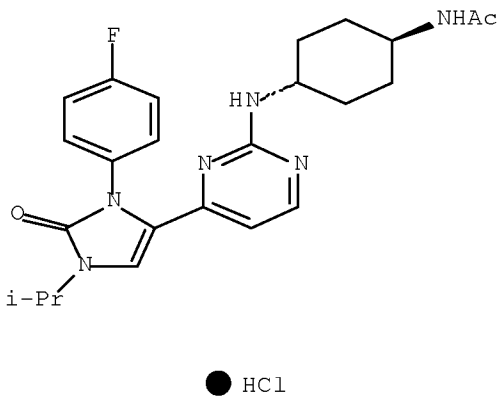
Relative stereochemistry.



RN 521090-76-6 CAPLUS

CN Acetamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(1-methylethyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, hydrochloride (1:1) (CA INDEX NAME)

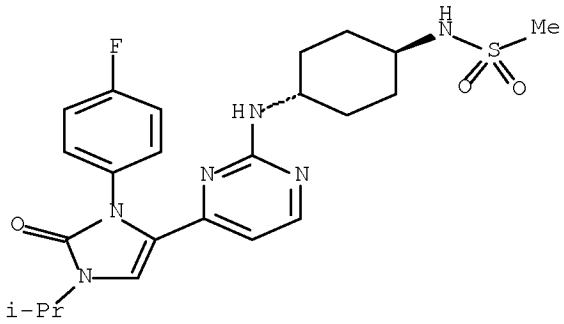
Relative stereochemistry.



● HCl

RN 521091-59-8 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(1-methylethyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, hydrochloride (1:1) (CA INDEX NAME)

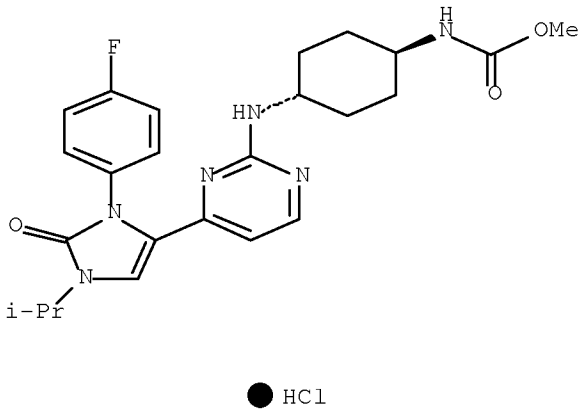
Relative stereochemistry.



● HCl

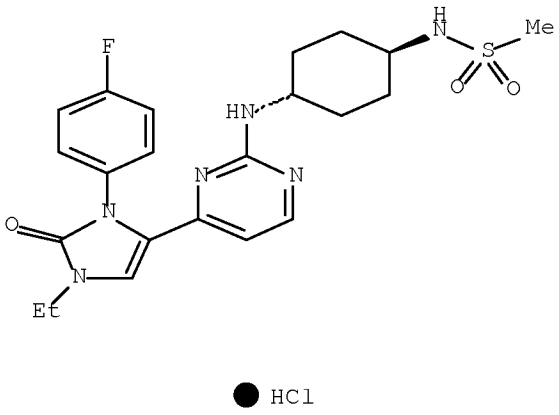
RN 521091-62-3 CAPLUS
CN Carbamic acid, [trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(1-methylethyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Relative stereochemistry.



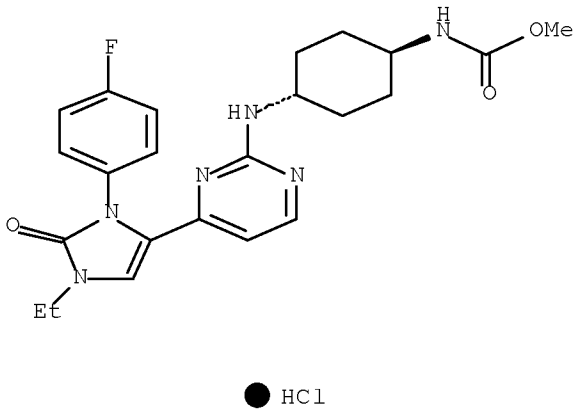
RN 521091-63-4 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[1-ethyl-3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



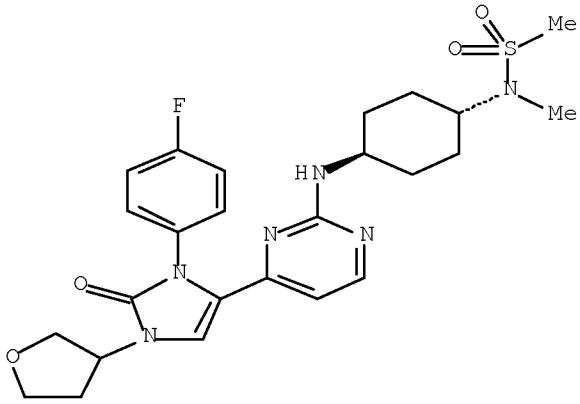
RN 521091-65-6 CAPLUS
CN Carbamic acid, [trans-4-[[4-[1-ethyl-3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Relative stereochemistry.



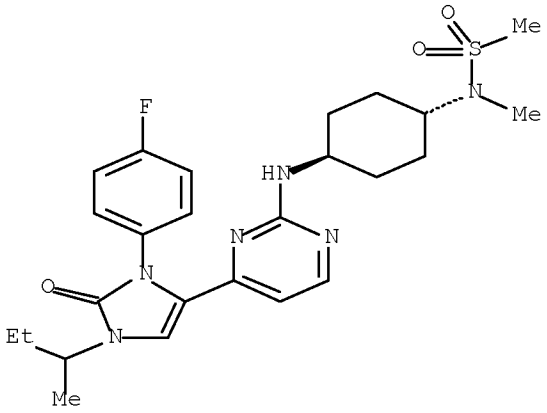
IT 1070144-37-4 1070144-44-3 1070144-77-2
RL: PRPH (Prophetic)
(Preparation of imidazolin-2-one derivatives as p38 MAP kinase inhibitors)
RN 1070144-37-4 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1-(tetrahydro-3-furanyl)-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl- (CA INDEX NAME)

Relative stereochemistry.



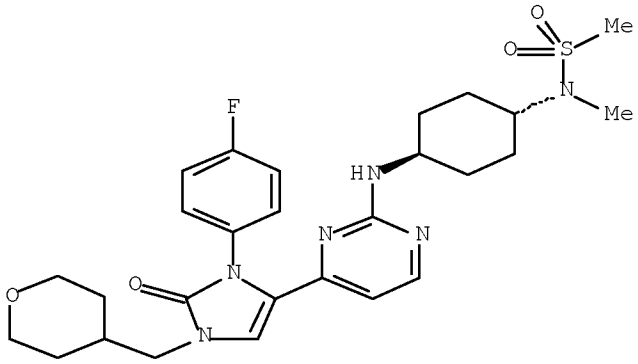
RN 1070144-44-3 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(1-methylpropyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl- (CA INDEX NAME)

Relative stereochemistry.



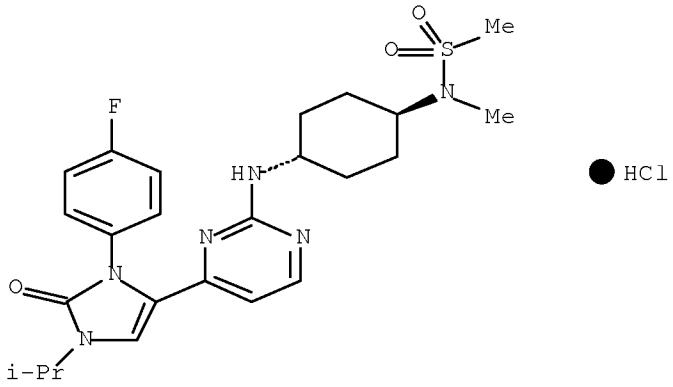
RN 1070144-77-2 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1-[(tetrahydro-2H-pyran-4-yl)methyl]-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl- (CA INDEX NAME)

Relative stereochemistry.



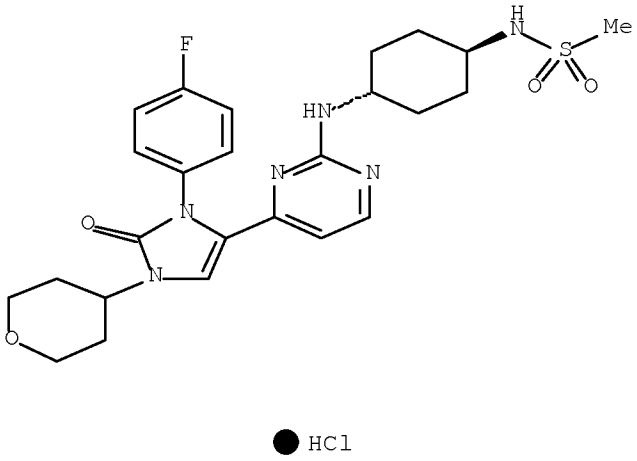
IT 774580-02-8P 774580-12-0P 774580-20-0P
774580-26-6P 774580-27-7P 774580-28-8P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of imidazolinones as p38 MAP kinase inhibitors)
RN 774580-02-8 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(1-methylethyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



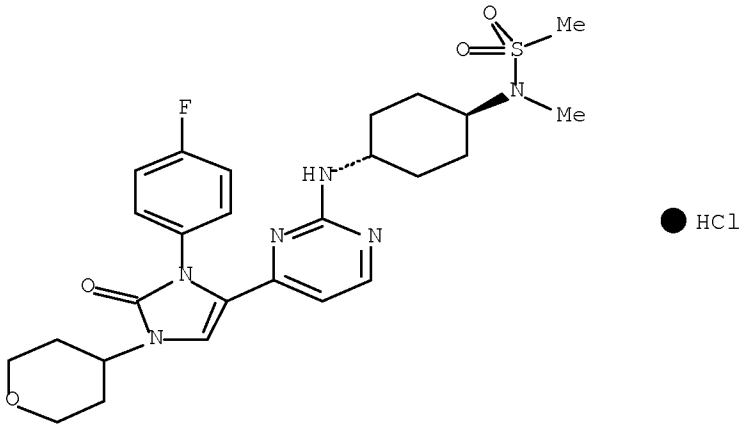
RN 774580-12-0 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1-(tetrahydro-2H-pyran-4-yl)-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



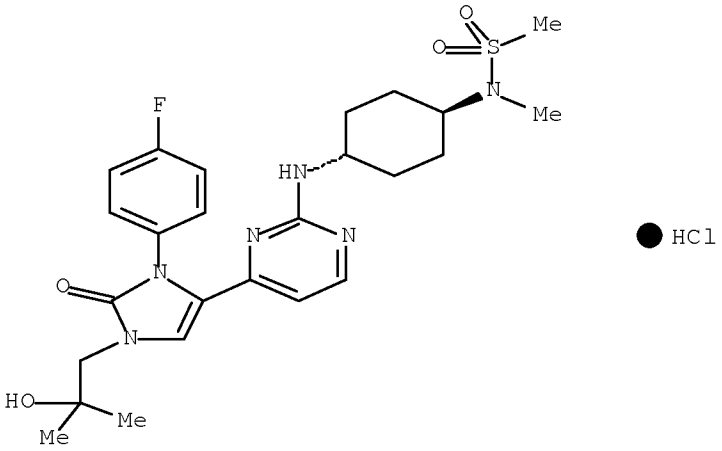
RN 774580-20-0 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1-(tetrahydro-2H-pyran-4-yl)-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



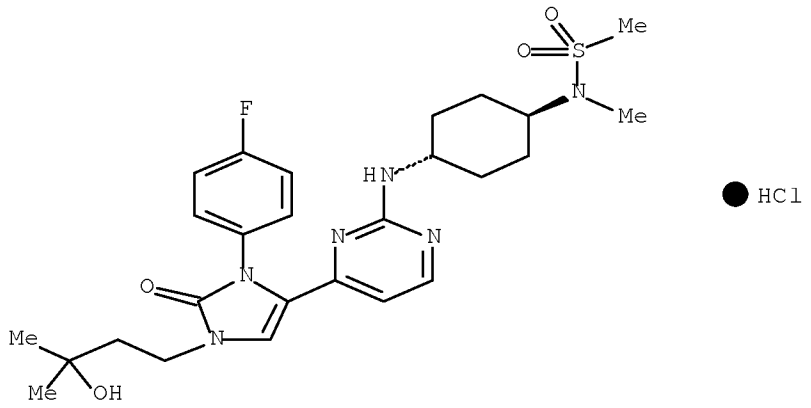
RN 774580-26-6 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(2-hydroxy-2-methylpropyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



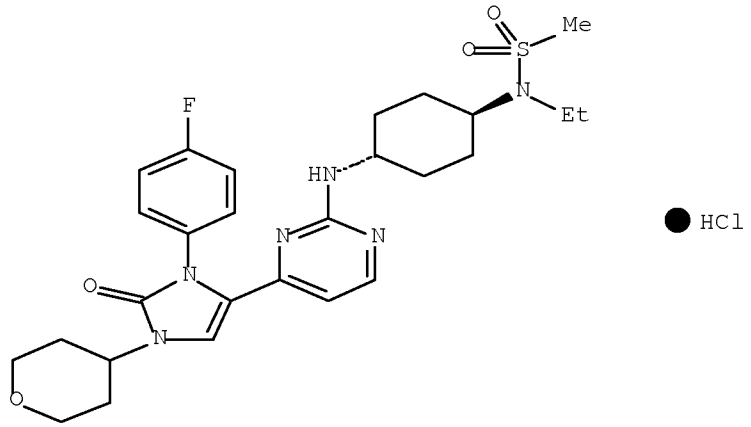
RN 774580-27-7 CAPLUS
CN Methanesulfonamide, N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-1-(3-hydroxy-3-methylbutyl)-2-oxo-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-N-methyl-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



RN 774580-28-8 CAPLUS
CN Methanesulfonamide, N-ethyl-N-[trans-4-[[4-[3-(4-fluorophenyl)-2,3-dihydro-2-oxo-1-(tetrahydro-2H-pyran-4-yl)-1H-imidazol-4-yl]-2-pyrimidinyl]amino]cyclohexyl]-, hydrochloride (1:1) (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:822842 CAPLUS Full-text
DOCUMENT NUMBER: 141:314346
TITLE: Preparation of quinoline, tetrahydroquinazoline, and pyrimidine derivatives as MCH antagonist for treatment of CNS disorders
INVENTOR(S): Sekiguchi, Yoshinori; Kanuma, Kosuke; Omodera, Katsunori; Busujima, Tsuyoshi; Tran, Thuy-Anh; Han, Sangdon; Casper, Martin; Kramer, Bryan A.; Semple, Graeme; Zou, Ning
PATENT ASSIGNEE(S): Taisho Pharmaceutical Co. Ltd., Japan; Arena Pharmaceuticals, Inc.
SOURCE: Eur. Pat. Appl., 586 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent